

ANNEXURE II-A

# CENTRAL UNIVERSITY OF KASHMIR

*Tulmulla, Ganderbal, Jammu and Kashmir, 191131.*



Bachelors in Technology (B Tech)  
Computer Science & Engineering (CS&E)

COURSE STRUCTURE  
(Batch 2020 and Onwards)

School of Engineering & Technology  
Department of Information Technology  
Course Structure for B.Tech. Computer Science & Engineering

**(Batch 2020 and onwards)**

<b>Semester I</b>			
<b>S. No.</b>	<b>Course Code</b>	<b>Course Title</b>	<b>Credits</b>
1	BT 101	Mathematics I	4
2	BT 102	Engineering Physics	3
3	BT 103	Chemistry	3
4	BT 104	Engineering Drawing	2
5	BT 105	Engineering Workshop	2
6	BT 106	Computer Programming	4
7	BT 107 L	Engineering Physics Lab	1
8	BT 108 L	Computer Programming Lab	2
9	BT 109 L	Chemistry Lab	1
10	BT 110	Sociology & Elements of Indian History for Engineers	2
		<b>Total</b>	<b>24</b>

<b>Semester II</b>			
<b>S. No.</b>	<b>Course Code</b>	<b>Course Title</b>	<b>Credits</b>
1	BT 201	Mathematics II	4
2	BT 204	Basic Electrical Engineering	4
3	BT 205	Engineering Mechanics	3
4	BT 208 L	Basic Electrical Engineering Lab	2
5	BT 209	Business Communication & Presentation Skills	2
6	BT 210	Biology	3
7	BT 211	Object Oriented Programming	4
8	BT 212 L	Object Oriented Programming Lab	2
		<b>Total</b>	<b>24</b>

**Course Structure for B.Tech. Computer Science & Engineering**

**(Batch 2020 and onwards)**

<b>Semester III</b>			
<b>S. No.</b>	<b>Course Code</b>	<b>Course Title</b>	<b>Credits</b>
1	BT 301	Mathematics III (Differential Equation)	4
2	BTCS 302	Basic Electronics	4
3	BTCS 303	Data Structures	4
4	BTCS 308	Database Management Systems	4
5	BTCS 305 L	Basic Electronics Lab	2
6	BTCS 306 L	Data Structures Lab	2
7	BT 309 L	Database Management Systems Lab	2
8	BT 307	Environmental Studies	2
		<b>Total</b>	<b>24</b>

<b>Semester IV</b>			
<b>S. No.</b>	<b>Course Code</b>	<b>Course Title</b>	<b>Credits</b>
1	BT 401	Mathematics IV (Probability and Statistics)	4
2	BTCS 408	Design and Analysis of Algorithms	4
3	BTCS 403	Discrete Structures	4
4	BTCS 404	Digital Electronics & Logic Design	4
5	BTCS 406 L	Digital Electronics & Logic Design Lab	2
6	BT 407	Economics for Engineers	2
		<b>Total</b>	<b>20</b>

**Course Structure for B.Tech. Computer Science & Engineering**  
**(Batch 2020 and onwards)**

## Semester V

S. No.	Course Code	Course Title	Credits
1	BTCS 501	Computer Organisation & Architecture	4
2	BTCS 507	Computer Graphics	4
3	BTCS 508	Data Communication	4
4	BTCS 509	Operating Systems	4
5	BTCS 504	Java Programming	4
6	BTCS 511 L	Computer Graphics Lab	2
7	BTCS 506 L	Java Programming Lab	2
		<b>Total</b>	<b>24</b>

## Semester VI

S. No.	Course Code	Course Title	Credits
1	BTCS 609	Software Analysis & Design	4
2	BTCS 602	Computer Networks	4
3	BTCS 608	Web Design & Development	4
4	BTCS 604	Theory of Computation	4
5	BTCS E***	Elective 1	4
6	BTCS 606 L	Computer Networks Lab	2
7	BTCS 607 L	Web Design & Development Lab	2
8	BTCS 605	Industrial Training	-
		<b>Total</b>	<b>24</b>

**Course Structure for B.Tech. Computer Science & Engineering**  
**(Batch 2020 and onwards)**

## Semester VII

S. No.	Course Code	Course Title	Credits
1	BTCS 708	Software Engineering	4
2	BTCS 709	Microprocessor	4
3	BTCS 703	Pre Project	2
4	BTCS 716	Network Security	4
5	BTCS 718 L	Network Security Lab	2
6	BTCS 719 L	Microprocessor Lab	2
7	BTCS 706	Compiler Design	4
8	BTCS E***	Elective 2	4
		<b>Total</b>	<b>26</b>

## Semester VIII

S. No.	Course Code	Course Title	Credits
1	BTCS 815	Artificial Intelligence	4
2	BTCS 802	Project	8
4	BTCS 803	Python Programming	4
5	BTCS E***	Elective 3	4
		<b>Total</b>	<b>20</b>

<b>Total Credits</b>	<b>186</b>
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**Course Structure for B.Tech. Computer Science & Engineering**  
**(Batch 2020 and onwards)**

## List of Electives

S. No.	Course Code	Course Title	Credits
1	BTCS E001	Advanced Algorithms	4
2	BTCS E002	Advanced Computer Architecture	4
3	BTCS E003	Advanced Computer Graphics	4
4	BTCS E004	Advanced Computer Networks	4
5	BTCS E005	Advanced Database Management Systems	4
6	BTCS E006	Advanced Internet Technologies	4
7	BTCS E007	Android Programming	4
8	BTCS E008	Big Data	4
9	BTCS E009	Cloud Computing	4
10	BTCS E010	Computer Vision	4
11	BTCS E011	Cyber Laws and Forensics	4
12	BTCS E012	Digital Signal Processing	4
13	BTCS E013	Distributed and Parallel Computing	4
14	BTCS E014	Embedded Systems	4
15	BTCS E015	Expert Systems	4
16	BTCS E016	Fault Tolerant Computing	4
17	BTCS E017	Graph Theory	4
18	BTCS E018	Green Computing	4
19	BTCS E019	Image Processing	4
20	BTCS E020	Logic Programming	4
21	BTCS E021	Management Information Systems	4
22	BTCS E022	Mobile Computing	4
23	BTCS E023	Neural Networks	4
24	BTCS E024	Next Generation Networks	4
25	BTCS E025	Numerical Methods	4
26	BTCS E026	Pervasive Computing	4
27	BTCS E027	Real Time Operating Systems	4
28	BTCS E028	Visual Programming	4
29	BTCS E029	Simulation and Modelling	4
30	BTCS E030	Software Project Management	4
31	BTCS E031	System Design Using HDL	4
32	BTCS E032	Unix and Shell Programming	4

**Course Structure for B.Tech. Computer Science & Engineering**  
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## List of Electives

S. No.	Course Code	Course Title	Credits
33	BTCS E033	Wireless Communication	4
34	BTCS E034	Cryptography & Information Security	4
35	BTCS E035	E-Commerce	4
36	BTCS E036	Enterprise Resource Planning (Erp)	4
37	BTCS E037	Information Retrieval	4
38	BTCS E038	Multimedia	4
39	BTCS E039	Remote Sensing	4
40	BTCS E040	Theory of Languages	4
41	BTCS E041	Data Mining	4
42	BTCS E042	Internet Security and Cyber Law	4
43	BTCS E043	Robotics	4
44		SWAYAM MOOC Course ( <i>Department Approved</i> )	4